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(54) Adaptive inflation mechanism

(57) This present invention provides variable deployment performance by controlling the quantity and fluid flow path of the inflator gas into or out of an air bag module (10) according to the present invention. The air bag module (10) includes a slide ring mechanism (30) disposed about an inflator (12) and adjacent at least a portion of a cushion retainer (18). The slide ring mechanism (30) comprises an annular ring having openings (80) formed therein, wherein during rotation of the slide mechanism (30), the openings (80) of the annular ring (30) align with openings (20) formed in the cushion retainer (18) to define a fluid flow path (110) away from an air bag cushion (14) for venting some of the inflator gas. Preferably, the annular ring (30) is rotated by attaching a pair of tethers (120) to the annular ring (30) and to a rear surface (15) of the air bag cushion (14). As the air bag cushion (14) inflates and reaches a predetermined pressure, the tethers (120) are pulled causing the slide ring (30) to rotate so that the openings (20, 80) in the annular ring (30) and cushion retainer (18) align directing an amount of inflator gas away from the air bag cushion (14). The present invention thus provides a direct mechanical system for cushion pressure feedback to tailor the inflation.

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EUROPEAN SEARCH REPORT

Application Number
EP 00 20 4351

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	GB 2 338 214 A (AUTOLIV DEV) 15 December 1999 (1999-12-15) * page 6, line 10 - page 11, line 10; figures 1-3 *	1,3-9,19	B60R21/28
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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B60R

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	16 May 2001	Ekblom, H

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 00 20 4351

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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